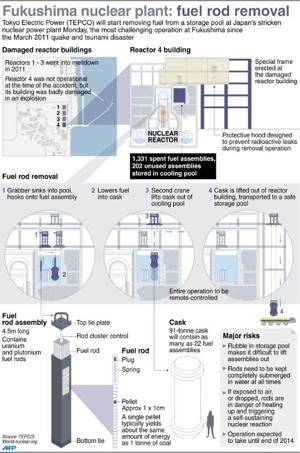
[](http://news.yahoo.com/photos/graphic-showing-process-fuel-rod-removal-japans-stricken-photo-035712877.html)**Fukushima operator starts dangerous fuel-rod removal**

[AFP](http://www.afp.com/) By **Kyoko Hasegawa** November 18, 2013

Tokyo (AFP) - Workers at Japan's Fukushima nuclear plant on Monday began moving fuel rods from a reactor building, in their most difficult and dangerous task since a tsunami crippled the facility in 2011. Operator Tokyo Electric Power (TEPCO) said it had begun the process of removing the uranium and plutonium rods from a storage pool -- a tricky but essential step in the complex's decades-long decommissioning plan. The operation follows months of setbacks and glitches that have stoked widespread criticism of the utility's handling of the crisis, the worst nuclear accident in a generation. However, the work pales in comparison with the much more complex task that awaits engineers, who will have to remove the misshapen cores of three other reactors that went into meltdown before being brought under control two years ago.

The fuel rods are bundled together in so-called assemblies which must be pulled out of the storage pool where they were being kept when a tsunami smashed into Fukushima in March 2011. There are more than 1,500 such assemblies in the pool. Over the course of two days, the company said it expects to remove 22 assemblies, with the entire operation scheduled to run for more than a year. "At 15:18 (0618 GMT), we started to pull up the first fuel assembly with a crane," a company spokesman said Monday. The huge crane, with a remote-controlled grabber, is being lowered into the pool and then hooked onto the assemblies, placing them inside a fully immersed cask. The 91-tonne cask will then be hauled from the pool to be loaded onto a trailer and taken to a different storage pool about 100 metres (yards) away. Experts have warned that slip-ups could trigger a rapid deterioration in the situation. "We are concerned that TEPCO may not be capable of conducting this risky operation safely," Greenpeace said Monday. It added that a botched job may mean "workers could be exposed to excessive levels of radiation and in a worst-case scenario there could be a massive new release of radiation to the atmosphere".

**'Great risk'**

 While such operations are routine at other nuclear plants, the disaster has made conditions far more complex. "This is an important process that is an inevitable part of the decommissioning process, but it includes work that could pose a great risk," said the Citizen's Nuclear Information Center, an independent energy think tank. Hiroaki Koide, assistant professor at Kyoto University's Research Reactor Institute, said the timing of the fuel rod removal was crucial as "the reactor's storage pool is in an unstable condition". Koide added that the whole decommissioning process would involve "unprecedented challenges". The reactor which the pool serves -- No. 4 -- was not in operation at the time of the accident. But hydrogen from Reactor No. 3 got into the building and exploded, tearing the roof off and leaving it at the mercy of earthquakes, storms or another tsunami.

TEPCO says it has not yet found any damage to the assemblies at No. 4, but will be monitoring for abnormalities, such as rust. While removing fuel rods from the No. 4 site is easier than from other reactors that went into meltdown, the process still "has to be done with extreme care", said Hiroshi Tasaka, a professor at Tokyo's Tama University. "The high level of radioactive waste inside (other) reactors are the most difficult to deal with as everything inside is a mess," added Tasaka, who advised the government in the aftermath of the Fukushima crisis. Work at the plant has suffered months of setbacks including multiple leaks from tanks storing radioactive water, and a power outage caused when a rat electrocuted itself on a circuit board.

TEPCO's management of the problems has been criticised as haphazard and uncoordinated, with one government minister saying it was like watching someone playing "whack-a-mole". The full decommissioning of Fukushima is likely to take decades and include tasks that have never been attempted anywhere in the world. Villages and towns nearby remain largely empty. Fear of radiation makes residents unable or unwilling to return to live in the shadow of the leaking plant.